


1 ABSTRACT

2 A method for determining the location of the accumulation fluids in a subterranean
3 formation. The method includes the steps of determining a first velocity vector " V_x " for
4 migration of fluid in a region of interest in the subterranean formation. The first velocity vector
5 includes attributes of speed and direction of flow of fluid in a first direction in the region of
6 interest. The method further includes determining a second velocity vector " V_y " for migration of
7 fluid in the region of interest. The second velocity vector includes attributes of speed and
8 direction of flow of fluid in a second direction in the region of interest. The velocity vectors are
9 then extrapolated to identify the fluid accumulation location. The first and second velocity
10 vectors are primarily functions of supplementary pressure " dP " in the region of interest, the
11 permeability " c " of the region of interest, and the viscosity " u " of the fluid in the region of
12 interest.

13  The supplementary pressure can be determined by identifying pressure gradients within the
14 region, the region being characterized by a seismic image of a stacked time section representing
15 horizons within the region. The permeability of the media within the region, and the viscosity of
16 the fluid within the region, can either be determined mathematically or from geological data.